Extract from the Protocol of the Second General Session of the forty-ninth meeting of German Naturalists and Physicians. Hamburg, September 20, 1876.

Prof. Möbius proposed the following motion :—

GENTLEMEN,—I have had frequent occasion to allude to the great expeditions of the *Challenger* and of our *Gazelle*. I could only give you mere indications of what has been so promptly communicated to us by the leaders and scientific explorers of these expeditions, and been thus made the common property of all nations which cultivate science. This assembly of naturalists is the first which has met since the completion of the expedition of the *Gazelle*, commanded by Baron v. Schleinitz, and extending over nearly two years, and since the termination of the expedition of the *Challenger*, under the command of Nares and the scientific directorship of Thomson, after a voyage of three years and a half. I therefore take the liberty of proposing that this assembly express to the promoters and to the members of the expedition of H. M. S. *Challenger* and of H.I.M.S. *Gazelle*, its recognition and thanks for their successful labours in the domain of oceanic exploration.

The motion was then put and passed with acclamation.

I. ARTHUR F. MEYER
Secretary of the forty-ninth Meeting of German Naturalists and Physicians.

NOTES

THE fifth "Exposition des Insectes utiles et des Insectes nuisibles," arranged under the auspices of the Société Centrale d'Apiculture et d'Insectologie, has been held during the last four weeks in the Orangery of the Tuileries, and closed on Sunday. The first exhibition of the kind was held at the Palais de l'Industrie, in 1865, there was a second in 1868, and at the third, in 1872, it was determined to make it bi-annual. The society has three separate committees, one on apiculture, one on sericiculture, and one on general insectology, which sit once a month, and the exhibitions are likewise divided into three corresponding sections. The section devoted to apiculture was much like the bee shows held at the Crystal and Alexandra Palaces, and included a show not only of different breeds of bees, but all appliances employed or suggested as improvements. We naturally have not in England any shows analogous to the section of sericiculture as silkworm rearing is here, only an amusement and not a business. Nor, unfortunately, have we any exhibitions analogous to the section of general insectology, and here it would be well if we learnt a lesson from our French neighbours. The society is endeavouring in various ways to educate the country to a knowledge of the distinction of what insects are useful and what are destructive to crops, granaries, garden-produce, wood, textile fabrics, &c. For this purpose they encourage the formation of collections of insects, each destructive species being accompanied by an illustration of what it preys on. In this respect we are in point of quality still ahead, for the best collection there was not so good as ours at Bethnal Green, made by Mr. Andrew Murray, F.L.S. They were, however, able to show several collections, while we have but one. But besides this they use the elementary schools of the country as a channel for instruction. They offer prizes to these schools for essays and for magnified drawings of insects, the work of the pupils. On one of the tables in the exhibition, a number of the essays were exhibited, and on the walls many of the drawings were shown. The *Morning Post* in speaking of the entomological collection at the Bethnal Green Museum alluded especially to the drawings made by Mr. Andrew Murray, and suggested they should be used as copies in art schools, and that thus the information they teach would be scattered over the country. This same kind of idea is, it seems, already carried out in France. The drawings there, however, are outline pen and ink sketches only, sometimes made from the teacher's copy, sometimes the result of the pupil's own dissections. We have in England a machinery ready at hand for teaching practical entomology, viz., the Science and Art Department. It would not be a very difficult matter to add that to the list of subjects on which teaching is given and examinations are held. Those who know how much the country loses annually by insect ravages would best estimate the value of such teaching that might be turned to practical account.

A LETTER has been received from Capt. Allen Young, of the *Pandora*, who it will be remembered was to endeavour to communicate with or bring back letters from our Arctic Expedition. Capt. Young's letter is dated Uperninik, July 19. He has absolutely nothing to tell of the expedition, as might be expected. He has every reason to believe that the weather in the far north has been favourable to progress. Capt. Young does not state what his next course is, and refers to a previous letter, not received.

OBSERVATIONS have been published by several French provincial papers on the meteor of September 24. One of the most accurate was in the *Echo du Nord*, published at Lille. The apparent diameter of the meteor is stated to have been equal to the moon in opposition; the same measure was given by M. Bamberger, the member for Dunkirk, as reported by that gentleman in a letter to M. Leverrier. The position of the meteor was below Ursa Major, on the eastern side, at 20° from the horizon for Lille. The time in Dunkirk and Lille was the same, 6h. 40m. local time, Dunkirk being a few minutes behind owing to the western longitude. The colour was almost the same, having been described as reddish-blue at Dunkirk and reddish-violet at Lille. A surgeon at Dunkirk said he had heard a hissing sound; a sound was also heard at Lille by a number of people. It was an explosion (*fracas*) according to ear-witnesses, and took place three minutes after the appearance. If correct, that observation shows a distance of about 60 kilometres. M. Leverrier is collecting and examining statements before entering into a calculation. The light was seen by him at the observatory, as reported before the French Academy of Sciences on the following day. It was seen by a number of persons in Paris. The cloud of burning matter and ashes was observed for a considerable time—at least fifteen minutes.

WE are glad to see that means have been taken to obtain subscriptions in aid of the family of the late Mr. George Smith, as a public testimonial of respect to his memory. Contributions to "The George Smith Fund" should be sent to Mr. J. W. Bosanquet, 73, Lombard Street, E.C., in the name of Sir Henry Rawlinson and Dr. Birch.

WE learn from the *Chronique de l'Acclimatation*, that in the just completed New York Aquarium immense basins have been constructed for the reception of the large cetaceans. A number of Otaries have already been received from Behring Strait, and the proprietors hope to be able to exhibit to the public the famous seal Ben Butler, which has for many years frequented the island of San Domingo, in the Bay of San Francisco; the director has offered 5,000 dollars for this curiosity. For the purpose of facilitating scientific researches, the central building contains a library of the best works in natural history, pictures, scientific journals, a laboratory, microscopes, drawing-tables, dissection-room, and all the necessary materials for modelling and photography. Finally, the establishment contains a restaurant in which will be served fish and crustaceans caught before the eyes of the consumer.

PROF. TURNER, of Edinburgh, desires us to correct a misapprehension which appears in our brief notice (NATURE, vol. xiv. p. 485) of his paper on the Placenta, read before Section D of the British Association at Glasgow. He states that the restriction of area in the more complicated forms of placenta

does not diminish but increases the danger of hæmorrhage after parturition. Prof. Turner also wishes us to say in reference to the note on p. 466, as to M. Broca, that that anthropologist in the *Revue d'Anthropologie*, 1876, t. v. No. 2, has given a critical account of Prof. Turner's paper on Cerebral Topography, as also of the writings of MM. Gratiolet, Heftler, and Féré. We may here also state in reference to the report of Prof. W. C. Williamson's paper at the Brit. Ass. (vol. xiv., p. 456), that what Prof. Williamson really said was that the fossiliferous rocks would be the true battle-field on which the problems of evolution would be fought out.

In the *Aftonblad* of the 19th Sept. a letter was published from Dr. Théel (of Nordenskjöld's Siberian Expedition), in which he states that, after travelling for ten days by steamer, first on the rivers Tura and Tobol, and then on the Irtisch and the Obi, his party arrived on June 3 at Tomsk, and on the 8th at Krasnojarsk. Starting from the latter town on June 16, they arrived at Jeniseisk on the 18th, and at Turuchansk on July 16, and were at that date hoping to be at Dudinskoj by the 25th of the same month. The party had made rich collections, both zoological and botanical.

The Russian Count Oovarof, is preparing a great work on the "Stone Age in Russia," which will be published in Moscow, with numerous illustrations. Such a work is much wanted, owing to the large accumulation of material during the last few years, and to the absence of any systematic account of them. So far as we know, there have appeared in Russia during recent years, only two monographs devoted to the subject, one by M. Holmberg, on the stone and bronze implements of Finland ("Bidrag till kännedom of Finlands natur och folk," 1858), the other by M. Poliakoff, on the stone age in the Olonetz province ("Mem. R. Geogr. Soc.," 1874).

It is proposed among the physicians and hygienists of St. Petersburg to open there a Hygienic Society, which will be in close connection with the London Sanitary Institute and with the Paris Société Nationale d'Hygiène. Hygiene obtains great attention among Russian physicians, and the fortnightly periodical, *Zdorovie* (*The Health*), has already published, during the first half year of its existence, some very valuable original papers by MM. Arkhanguelsky, Skvortsoff, Shapiro, Gué, Ucke, Hübner, Erisman, Tarkhanoff, Dobroshavin, and others.

The investigation of the upper parts of the atmosphere by means of balloon ascents continues to interest Russian *savants*. Some very valuable additions to our knowledge of the subject have been made during recent years by Prof. Boltzang in Kasan, and by Lieut. Rykatcheff, of the Central Physical Observatory, who took advantage on many occasions of the public ascents of M. Berg. But neither was able to extend their observations to great heights. Now, the Professor of Chemistry of the St. Petersburg University, M. Mendéléeff has devoted to further researches in this direction all the profits which may be received during the next five years from his widely-circulated "Handbook of Chemistry" and other works, as well as the whole profits of a just-published Russian translation, under his editorship, of Prof. Mohn's "Meteorology." It is proposed to construct a large captive balloon, of from two to three thousand cubic metres, and to fill it by apparatus specially devised or modified for the purpose by the Professor.

The last numbers of the *Bulletin* of the Siberian branch of the Geographical Society, published in Irkootsk, contain an elaborate monograph of the fishes of the Baikal, by M. B. Godlefsky.

Preparations are being made in St. Petersburg for the celebration of the hundred and fiftieth anniversary of the Academy of Science, which will be held in the same manner as the fiftieth and hundredth anniversaries in 1776 and 1826. It is rumoured that the Academy purposes largely to increase the number of its honorary and corresponding members, both foreign and Russian, and that a special meeting will be held in honour of the library of the Academy, the first scientific library opened for the public in Russia (October 25, 1728), and which is now one of the richest in Europe in its Natural Science Department, and in the valuable collections of scientific periodicals received from nearly all the scientific societies of Europe and America.

A West Siberian branch of the Russian Geographical Society, receiving a yearly subsidy of 2,000 roubles from the government, will be opened at Omsk. It is hoped that the new section (the sixth section of this large society) will do as much for the extension of our knowledge of the little-known Western Siberia as the East Siberian branch at Irkootsk has done for Eastern Siberia. This last, which enters upon the twenty-sixth year of its existence, has largely contributed to the exploration of nearly every part of its region, from the Polar Sea to the interior of China, and from the Jenissei to Behring Strait, and has published (besides the works which have appeared in the periodicals of the St. Petersburg Geographical Society, of the Imperial Academy, &c.) the well-known Travels of M. Maack, Annual Reports, and a very valuable series of *Memoirs* (eleven vols.) and *Bulletin* (five vols.). We hope that the new section will take more pains to circulate its periodicals than has been the case with her older sisters, the periodicals of the Irkootsk branch being, we are told, almost bibliographical rarities even in St. Petersburg.

The remarkable palæontological and mineralogical collections of the deceased Prof. Folborth, being the result of more than forty years' labours in Russia, are now, according to his bequest, in the possession of the St. Petersburg Academy of Science.

On Wednesday, September 20, an earthquake was felt at Digne, the chief town of Basses Alpes, at seven in the morning. The motion was considerable, although the damage was slight. The last time Digne was visited by a similar phenomenon was in 1873. A destructive one took place on August 14, 1708, and from that time slight disturbances have been comparatively frequent.

A few days since there died in Paris, at the age of sixty-one, M. Joseph Julien, a clockmaker, who had succeeded in directing a small elongated balloon with a screw moved by a spring. The experiment was tried with success in the Hippodrome at Paris, in 1849–50, and attracted much notice. M. Julien died an inmate of St. Anne's Asylum for the Insane.

Mr. John Evans, F.R.S., has just published a *brochure* likely to be of great service to collectors of bronze implements, weapons, and ornaments; it is entitled "Petit Album de l'Age du Bronze de la Grande Bretagne" (London: Longmans and Co.), for the letter-press is in French. This is explained by the fact that the collection was prepared for the meeting of the Prehistoric Congress at Buda-Pest, the official language of which is French. This *brochure* is a mere scintillation from a much larger book which Mr. Evans has been preparing for some years, but which unfortunately does not seem to be near completion. There are twenty-six plates altogether, each with an average of about six figures of various bronze articles, embracing specimens of almost everything in prehistoric bronze that has yet been found. The plates are beautifully executed, and are accompanied by descriptions of all the articles represented.

The death is announced, on September 30, of the Rev. Henry Wilkinson Cookson, D.D., the Master of St. Peter's College, Cambridge.

Mr. W. H. Preece (Memb. Inst. C.E.) is about to proceed to America, under instructions from the Postmaster-General, to

inspect and report upon the technical and scientific arrangements of the telegraphs in the United States. This is one result of the report of Dr. Lyon Playfair's Select Committee.

A BERNE observer has registered the number of days when the shade temperature had exceeded 20° C. in the last twenty-eight years (1849–1876). The number in each of the twenty-eight years is as follows:—31, 19, 22, 27, 22, 11, 17, 29, 30, 26, 47, 10, 37, 16, 34, 20, 30, 24, 31, 56, 31, 56, 31, 44, 38, 26, 40, 55. No regularity whatever is exhibited.

IT is rumoured that the Colorado beetle is amongst us, and unfortunately not confined to the cabinets of collectors.

A BILL is being framed to be brought before Parliament next session for the incorporation of the Andersonian University, Glasgow. The Bill will provide for a change of name and several important modifications in the constitution.

THE progress of education in Russia has in recent years been very marked. In April 1866 the Czar appointed Count Tolstoi Minister of Education. In commemoration of his first ten years of official activity, this minister has recently published a "comparative map of the higher and middle educational institutions of the ministry of education in the years 1866 and 1876." The facts expressed by the map are given in tabular form, in a recent number of the *Russische Revue*, and the following extract will show, in general form, the increase in number of higher and middle educational institutions during the decennium in question:—

	1866	1876
Universities and other higher institutions ...	8	18
Gymnasia	101	133
Pro-gymnasia	7	69
Real-schulen and Real-gymnasia	11	53
Technical institutions	—	11
Seminaries for teachers	9	60
Girls' gymnasia and schools of first rank ...	39	66
Girls' pro-gymnasia and schools of second rank	55	148
	222	540

UNDER the title "L'Erborista Toscano," the eminent professor of botany at Pisa, Prof. Caruel, publishes an analytical key to the natural orders, genera, and species of Phanerogams and Vascular Cryptogams (or, as he terms them, Prothallogams) found wild in Tuscany.

UNDER the title "Contributions to the Flora of Iowa," Mr. J. C. Arthur prints a list of the flowering plants of the State, 979 in number, including varieties and introduced species, with critical notes on some of the species.

WE have before us the *Bulletins* of the Torrey Botanical Club of New York, Nos. 17–20 of vol. vi. They comprise a list of the Musci and Hepaticæ of Colorado collected by T. L. Brandegee in 1873–75, and determined by E. A. Rau; notes on some rare southern plants, by H. W. Ravenel; and several minor papers, chiefly of local interest.

WE have a useful contribution to botanical biography in a sketch by Prof. E. Morren, "Mathias de l'Obel (Lobelius), sa vie, et ses œuvres, 1538–1616."

THE additions to the Zoological Society's Gardens during the past week include five Perch (*Perca fluviatilis*) from British Fresh Waters, presented by Master B. L. Sclater; a Rüppell's Spur-winged Goose (*Plectropterus rüppelli*) from East Africa, a Grey Struthidea (*Struthidea cinerea*) from Australia, two Chinese Jay Thrushes (*Garrulax chinensis*) from China, deposited; four American Darters (*Plotus anhinga*), two Boatbills (*Cancroma cochlearia*), a Sun Bittern (*Eurypyga helias*), two Black-faced Ibises (*Geronticus melanopis*), a Stilt Plover (*Himantopus nigricollis*), two Bahama Ducks (*Pœcillonetta bahamensis*), a Red-billed Tree Duck (*Dendrocygna autumnalis*) from S. America, a Slaty-headed Parrakeet (*Palœornis schisticeps*) from India, purchased.

SCIENTIFIC SERIALS

THE recent numbers of the *Journal of Botany*, Nos. 161–165 (now edited solely by Dr. H. Trimen), contain no one article of very special interest; but several interesting contributions to foreign and British botany of a more or less technical character, and strongly illustrating the present tendency of British botanists to devote themselves to systematic and nomenclatorial, to the almost entire exclusion of morphological and physiological work. —Dr. R. Spruce describes a new genus of Hepaticæ, and the Rev. M. J. Berkeley two new genera of Fungi, under the names respectively of *Anomoclada*, *Kalchbrennera*, and *Macowania*; and the Rev. J. M. Crombie some new Lichens from Rodriguez. —Mr. Hemsley and Dr. Hance add to our stock of information on the botanical products of China and Cambodia.—Dr. M. T. Masters identifies the pear recently discovered in Britain and described under the name of *Pyrus communis* var. *Briggsii* with the well-known continental *P. cordata* of Desvaux.—Mr. J. G. Baker continues his useful work on the hitherto little-studied Irideæ, his contributions in the present number including the Ixieæ and the genera *Aristea* and *Sisyrinchium*, with descriptions of a new *Xiphion* and *Crocus* from the Cilician Taurus.—There are many minor notes of much interest.

THE *Nuovo Giornale Botanico Italiano*, edited by Prof. Caruel, has increased its number of pages in each part; but, with its increase in quantity, has suffered no deterioration in quality. Indeed, the Italian botanical journal is now among the most important of European serial publications in botany. In the two numbers before us, the second and third for the present year, the articles of interest are so numerous that we can only glance at some of the most important, at the risk of doing scant justice to the remainder. The longest article is one which extends over the two numbers, on the alimentation of cellular plants, by G. Cugini. The result evidently of great labour and research, it is impossible even to give an abstract of the conclusions at which the writer arrives. With regard to the relative importance of the various elementary substances of which the food of plants is composed, he differs somewhat from the results arrived at by Sachs and detailed in his "Text-book," especially in considering potassium, calcium, magnesium, and iron as of nearly equal value in the vegetable economy. He thinks that potassium has a somewhat similar relationship to the carbohydrates to that which phosphorus bears to albuminoids. Signor Cugini's list of the essential food-materials of plants comprises organic carbonaceous substances, water, ammoniacal salts, sulphates of potassium and iron, phosphate of magnesium, and an alkaline silicate; and that of non-essential ingredients, in the order of their importance, the chloride, iodide, or bromide of sodium or potassium, the phosphate, nitrate, or sulphate of calcium, and salts of zinc, manganese, and aluminium.—Prof. Delpino contributes a paper on dichogamy and homogamy in plants, which is of great interest in view of Mr. Darwin's promised work on cross-fertilisation and self-fertilisation. After classifying plants into homogamic and dichogamic, he further subdivides the former class into homoclinic, in which the pollen fertilises the ovules in the same individual hermaphrodite flower; homocephalic, in which it fertilises ovules in flowers belonging to the same inflorescence; and monœcious, in which fertilisation is effected on ovules contained in flowers on a totally different part of the same individual. A series of experiments indicated that the fecundity resulting from pollination was in an inverse order to that given above.—Dr. G. Gibelli has made a careful examination of the infolded leaves of *Empetrum nigrum*, a common plant on our mountain heaths, and finds a striking resemblance, on a miniature scale, to the pitchers of *Nepenthes*, *Sarracenia*, &c., suggesting also an analogy of function. The paper is illustrated by two well-executed plates.—Cryptogamic botany comes in for its full share of attention.—In addition to papers On the Bacteria parasitic on fungi, by Dr. Lauzi, On the structure of *Pilularia globulifera* and *Salvinia natans*, by G. Arcangeli, and On *Isoëtes Duriæi*, by A. Piccone, there are others on the fungi of Venetia, on the Hepaticæ of Borneo, on new Italian fungi, and on the mosses of Liguria.

Der Naturforscher, April—July.—In the numbers we note an account, by M. Hoffmann, of a singular phenomenon in an orchard near the village of Heuchelheim. A large fire occurred in the village in the beginning of September, and four weeks after it numerous trees in the orchard (pears and damsons, *e.g.*) that had been singed by the fire began to vegetate anew, putting forth tender green leaves and blossoms, often by the side of fruits